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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,701	12/22/2000	James Wilson	A0312/7386/MXS	4553

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EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/748,701

Applicant(s)

WILSON ET AL.

Examiner

Alexander Jamal

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6,7</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1,2,7-24,26-35** rejected under 35 U.S.C. 102(e) as being anticipated by O'Toole et al. (5889856).

As per **claim 1**, O'Toole discloses a device (ABSTRACT, Fig. 6) to process signals from a telephone line supporting multiple protocols comprising a converter circuit (A/D 44) and a digital filter circuit 50 (Col 7 lines 1-53) to separate the two different signals.

As per **claim 2**, the device comprises a single transmit and receive analog path coupled to the phone line (Fig. 5) (Col 6 lines 30-63). The analog signal path supports POTS and ADSL signaling.

As per **claim 7**, claim 7 rejected for same reason as claims 1 and 2. The A/D 44 is a digitizer that digitizes both POTS and ADSL signals.

As per **claims 9,10,12,14,18,31,32**, the claims are rejected for same reasons as claims 1,2,7. The digital filter 50 (Fig. 6) outputs two separate data streams with each stream associated with a particular protocol.

As per **claim 8,13,15,17,21**, a single A/D digitizes the analog telephone line signal.

As per **claims 11,16,19,20,22,23,27,33,34,35** the analog telephone line signal (input signal) comprises signal components of POTS and ADSL that are separated and output by the digital splitter. The digital filter comprises two digital filters, with each one outputting signaling of a separate protocol (Fig. 7) (Col 8 lines 30-65).

As per **claim 24**, in Fig. 7, filters 62 and 66 have two separate bandwidth characteristics.

As per **claim 26**, each signaling protocol occupies a bandwidth separate from the other (Fig. 1).

As per **claim 28**, the digital filter comprises two sample rate converters (converters 60,68) in Fig. 7.

As per **claims 29,30**, the digital filter comprises a decimator 60 (Fig. 7, Col 8 line 31 to Col 9 line 22) associated with the ADSL rate, and a decimator 63 that is associated with the POTS rate. The filter further comprises interpolator 72 (Fig. 8, Col 9 lines 23-51). O'Toole mentions that the system may take advantage of the asymmetric properties of the ADSL signal and have a transmitted signal of greater bandwidth (Col 10 lines 40-53). As such, the system would inherently comprise an additional interpolator associated with the transmitted ADSL signal for the purpose of adjusting the signal sampling rate to the appropriate increased bandwidth before the signal reaches the D/A converter. The decimators and interpolators are sample rate converters.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 3-6** rejected under 35 U.S.C. 103(a) as being unpatentable over O'Toole et al. (5889856) as applied to claim 1 above, and further in view of Gambuzza (6226331).

As per **claims 3,4** O'Toole discloses applicant's claim 2, and additionally an analog front-end circuit, A/D and D/A converter coupled to the analog path (Figs. 5,7,8). However, O'Toole does not disclose the A/D and D/A converters coupled in between the analog front end and an isolation barrier.

Gambuzza discloses a data access arrangement for a DSL line with an isolation barrier located immediately after the separate drivers (for the transmit and receive directions) for the purpose of providing protection in between the user and line sides (Col 7 lines 15-67). It would have been obvious to one of ordinary skill in the art at the time of this application to implement an isolation barrier after the A/D converters in order to provide protection from analog transients between the line (analog) side and the user (digital) side.

As per **claim 5**, the analog telephone line signal (input signal) in O'Toole comprises signal components of POTS and ADSL that are separated and output by the digital splitter. The digital filter comprises two digital filters, with each one outputting signaling of a separate protocol (Fig, 7) (Col 8 lines 30-65).

As per **claim 6**, O'Toole's device performs fixed sample rate conversion and variable sample rate filtering (Figs. 7-8, Col 8 line 32- Col 9 line 21).

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5. **Claims 25** rejected under 35 U.S.C. 103(a) as being unpatentable over O'Toole et al. (5889856) as applied to claims 18-19 above.

As per **claim 25**, O'Toole discloses applicant's claims 18-19, and additionally that the digital filter comprises a high pass filter and a Bandpass filter (Fig. 7). However he does not specify that the POTS filter is a low-pass filter. The bandpass filter is set at the low frequencies and is only a bandpass filter for the purpose of filtering out any power related noise (below 100Hz). It would have been obvious to one of ordinary skill in the art at the time of this application that the bandpass filter could have been implemented as a lowpass filter (in the POTS frequency operating range) as a matter of design choice, if power noise was not an issue or was filtered out in another stage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.


CURTIS KUNTZ
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